

REPLY UNDER 37 CFR 1.116—

EXPEDITED PROCEDURE – TECHNOLOGY CENTER 2100

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Serial No. 10/623,878

Attorney Docket No. 200206812-1

Title: EMBEDDED DATA LAYERS

REMARKS**Claim Amendments**

Claims 11-13 and 15-27 are amended herein. Claims 1-10 and 28-58 are cancelled herein without prejudice. Applicant reserves the right to re-introduce the cancelled claims in one or more divisional applications.

Claim Objection

Claim 13 was objected to because of informalities. Applicant has amended claim 13 as recommended by the Examiner. Accordingly, Applicant respectfully requests reconsideration withdrawal of the objection and allowance of claim 13.

Claim Rejections Under 35 U.S.C. § 103

Claims 11-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Davis et al. (U.S. Publication No. 2002/0001395A1) in view of Huang et al. (U.S. Publication No. 2002/0054680). Applicant respectfully traverses this rejection and submits that claims 11-27 are allowable for the following reasons.

Applicant continues to respectfully maintain that Huang et al. discloses traditional print watermarks that are human perceivable using optical light filters and lenses and therefore does not teach or disclose steganographic digital watermarks that steganographically encode digital data that can be machine read. See, Huang et al., Figures 2-6; Abstract; Paragraphs [0011]-[0014] and [0024]-[0028].

In addition, Applicant respectfully submits that Paragraphs [0011] and [0012] of Huang et al. specifically cited by the Examiner do not teach two or more data layers, but the overlaying of two or more traditional optical watermarks out of two or more print image layers. In support of this, Applicant notes paragraph [0013] of Huang et al. which states, “[0013] The combination of layers of various security levels provides solutions for various applications needs. For example, an optical watermark may appear as the logo of a company on a document issued by that company. There can be, for example, three watermark layers. The first layer may be a

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cancellation word, such as "COPY", and the verification device is the photocopier. The cancellation word "COPY" appears if the printed original document is photocopied. The latent image object in the second layer may be a logo of the company, and the verification device is a specially designed lens with gratings defined by periodical functions. The lens can be given to the related organizations to verify the originality of the document. The third layer may be embedded with a logo of a trusted third party. The verification device is also a lens, but the structure is random dot pattern, which is more secure than the other layers." *See*, Huang et al., Figures 1-6; and Paragraphs [0011]-[0014].

Applicant respectfully submits that a person of ordinary skill in the art would not consider multiple layer traditional optical watermarks as being related to stenography or disclosing multiple layer digital watermarks that encode digital data steganographically.

Applicant disagrees with the Examiner's characterizations of Huang et al., however, in the interest of furthering prosecution, Applicant has amended the claims to clarify that digital steganographic watermark are being utilized to encode the digital metadata.

Applicant therefore respectfully submits that Huang et al. fails to teach or suggest a method that encodes digital metadata into two or more data layers of a digital steganographic watermark of the image, wherein one or more selected data layers of the two or more data layers encodes the metadata associated with a selected image object of the two or more image objects or encoding a plurality of layers of data in a digital steganographic watermark of at least one sub-image of an image and thus does not disclose or suggest all elements of the Applicant's claimed invention.

In addition, Applicant respectfully maintains that Davis et al. discloses a "steganographic embedder" that "associates data with a media signal by encoding the data, a link to the data, or a combination of both into the media signal. The embedder may be located in an media signal capture device or an external process or device." *See*, Davis et al., Abstract.

As such, Applicant contends that Davis et al. discloses apparatus and methods of associating digital metadata with images and media signals to be steganographically encoded in the image or media signal. In this, Applicant contends that Davis et al. only discloses steganographically encoding the metadata in a watermark having a single layer of an image and

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does not disclose or suggest steganographically encoding the metadata in a watermark having a two or more layers, as noted by the Examiner.

In addition, Applicant has carefully reviewed Davis et al. and respectfully maintains that Davis et al. also does not disclose or suggest encodes digital metadata into two or more data layers of a digital steganographic watermark of the image, wherein one or more selected data layers of the two or more data layers encodes the metadata associated with a selected image object of the two or more image objects or encoding a plurality of layers of data in a digital steganographic watermark of at least one sub-image of an image, as required by the Applicant's claimed invention. *See*, Davis et al., Abstract; Paragraphs [0024]-[0028], [0090]-[0096], [0100]-[0137], [0176]-[0185], [0206], [0002], [0003], [0015], and [0018].

As such, Applicant therefore respectfully maintains that combining the elements of Huang et al. with Davis et al. also fails to teach or suggest all elements of Applicant's claimed invention, either alone or in combination.

Applicant's claim 11, recites "[a] method of watermarking an image, comprising: associating digital metadata with each image object of two or more image objects of an image; and encoding the digital metadata into two or more data layers of a digital steganographic watermark of the image, wherein one or more selected data layers of the two or more data layers encodes the digital metadata associated with a selected image object of the two or more image objects." As detailed above, Applicant submits that Huang et al. and Davis et al. fail to teach or suggest such a method that encodes metadata into two or more data layers of a digital watermark of the image, wherein one or more selected data layers of the two or more data layers encodes the metadata associated with a selected image object of the two or more image objects, either alone or in combination. As such, Huang et al. and Davis et al. fails to teach or suggest all elements of claim 11.

Applicant's claim 18, recites "[a] method of digital steganographic watermarking at least one sub-image of an image, comprising: encoding a plurality of layers of data in a digital steganographic watermark of at least one sub-image of an image, wherein the plurality of layers of data are metadata associated with the at least one sub-image." As detailed above, Applicant submits that Huang et al. and Davis et al. fail to teach or suggest such a method that encodes data into a plurality of data layers of a digital watermark, where the plurality of layers of data are

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metadata associated with the at least one sub-image of the image, either alone or in combination.

As such, Huang et al. and Davis et al. fail to teach or disclose all elements of claim 18.

Applicant's claim 23, recites "[a] computer-usable medium having computer-readable instructions stored thereon for execution by a processor to perform a method comprising: associating digital metadata with each image object of two or more image objects of an image; and encoding the digital metadata into two or more data layers of a digital steganographic watermark of the image, wherein one or more selected data layers of the two or more data layers encodes the digital metadata associated with a selected image object of the two or more image objects." As detailed above, Applicant submits that Huang et al. and Davis et al. fail to teach or suggest such a computer-usable medium that associates metadata with each image object of two or more image objects of an image, and encodes the metadata into two or more data layers of a digital watermark of the image, either alone or in combination. As such, Huang et al. and Davis et al. fail to teach or suggest all elements of claim 23.

Applicant respectfully contends that claims 11, 18, and 23 as pending have been shown to be patentably distinct from the cited references, either alone or in combination. As claims 12-17, 19-22 and 24-27 depend from and further define claims 11, 18, and 23, respectively, they are also considered to be in condition for allowance. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claims 11-27.

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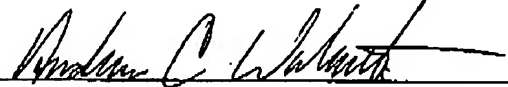
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CONCLUSION

In view of the above remarks, Applicant believes that all pending claims are in condition for allowance and respectfully requests a Notice of Allowance be issued in this case. Please charge any further fees deemed necessary or credit any overpayment to Deposit Account No. 08-2025.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 312-2207.

Respectfully submitted,

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